
NATIONAL AERONAUTICS
AND SPACE ADMINISTRATION

NASA-08100 (June 2004)
NASA
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SECTION 08100

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06/04

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SECTION 08100

METAL DOORS AND FRAMES
06/04

NOTE: Delete, revise, or add to the text in this section to cover project requirements. Notes are for designer information and will not appear in the final project specification.

This broadscope section covers standard steel swinging doors, steel frames, and fire-rated doors and frames.

PART 1 GENERAL

1.1 REFERENCES

NOTE: The following references should not be manually edited except to add new references. References not used in the text will automatically be deleted from this section of the project specification.

The publications listed below form a part of this section to the extent referenced:

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M (2004) Structural Welding Code - Steel

DOOR AND HARDWARE INSTITUTE (DHI)

DHI A115.1 (1990) Preparation for Mortise Locks for 1-3/8 Inch 35 millimeter and 1-3/4 Inch 44 millimeter Doors

DHI A115.2 (1988) Door and Frame Preparation for Bored or Cylindrical Locks for 1-3/8 Inch 35 millimeter and 1-3/4 Inch 44 millimeter Doors

DHI A115.4 (1994) Standard Steel Door and Frame Preparation for Lever Extension Flush Bolts

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 80 (1999) Standard for Fire Doors and Fire Windows

STEEL DOOR INSTITUTE (SDI)

SDI 100 (1998) Standard Steel Doors and Frames

SDI 105 (1991) Erection Instructions for Steel Frames

1.2 SUBMITTALS

NOTE: Review submittal description (SD) definitions in Section 01330, "Submittal Procedures," and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control. Include a columnar list of appropriate products and tests beneath each submittal description.

The following shall be submitted in accordance with Section 01330, "Submittal Procedures," in sufficient detail to show full compliance with the specification:

SD-02 Shop Drawings

Fabrication drawings for the following items shall show location and size of all holes to be punched for hardware attachment, size, shape, gage and finish.

Steel Doors
Frames

SD-02 Shop Drawings

Installation drawings for the following items shall be in accordance with the paragraph entitled, "Installation," of this section.

Steel Doors
Frames

SD-03 Product Data

Manufacturer's catalog data shall be submitted for the following items:

Steel Doors
Frames
Finish Hardware
Reinforcement

SD-07 Certificates

Certificates for the following items shall be submitted showing conformance with referenced standards contained in this section.

Steel Doors
Frames
Finish Hardware
Reinforcement

1.3 DELIVERY, HANDLING, AND STORAGE

Doors, frames, and accessories shall be protected from damage during handling, transportation, and at the job site. Materials shall be stored at the site, under cover, and on wood blocking or suitable floors.

1.4 GENERAL REQUIREMENTS

NOTE: If Section 05095, "Welding Steel Construction," is not included in the project specification, applicable requirements therefrom should be inserted and the following paragraph deleted.

[Section 05095, "Welding Steel Construction," applies to work specified in this section.]

PART 2 PRODUCTS

2.1 GENERAL

Doors, frames, and accessories shall conform to SDI 100 and the requirements specified herein.

Welding shall be in accordance with the recommended practice of the Structural Welding Code, Sections 1 through 6, AWS D1.1/D1.1M and as specified by the producer of the metal being welded. Welds behind finished surfaces shall cause no distortion or discoloration on the exposed side.

NOTE: If other models, gages, grades or if insulation is required, refer to SDI 100 and edit the paragraph accordingly.

2.1.1 Steel Doors

Doors shall be heavy duty, 1-3/4-inch 44 millimeter (1-3/4-inch), 18-gage 1.3 millimeter, full flush or seamless hollow steel construction, electrolytic zinc-coated with honeycomb core reinforcement.

Door louvers shall be inserted type.

Exterior louvers shall be provided with a 14- by 18-mesh 1.40 by 1.00 millimeter (14- by 18-mesh) bronze insect screen secured to the louvers on the interior side of the door.

Panel moldings on the exterior side of doors and the corridor side of interior doors shall be nonremovable. Panel molding on the interior side

of doors shall be removable.

Fire-rated doors shall be the types that have been investigated and fire tested as a fire door assembly, complete with the type of fire door hardware to be used in the work. Fire-rated doors shall be labeled with the applicable fire rating of the door construction provided.

2.1.2 Frames

Exterior frames shall be 16-gage 1.6 millimeter full welded-unit-type.

Interior frames shall be 16-gage 1.6 millimeter [full welded-unit] [knocked down, field assembled] type.

Fire-rated frames shall be the types that have been investigated and fire tested as an assembly, complete with the type of hardware to be used in the work. Fire-rated frames shall be labeled with the applicable fire rating of the frame construction provided.

2.2 FINISH HARDWARE PREPARATIONS AND LOCATIONS

Preparation for hardware shall be in accordance with DHI A115.1, DHI A115.2, and DHI A115.4, as applicable.

Frames, except fire-rated labeled frames, shall be punched to receive molded-rubber door silencers. Single door frames shall be punched for three silencers in the lock side jamb. Double door frames shall be punched for one silencer in each leaf of the frame head. Lock strikes shall be set out to provide clearance for the silencer.

Hardware locations shall comply with SDI 100, Table V, except when template dimensions and multiple-item installations require an alternative location.

Reinforcement for finished hardware shall meet or exceed the requirements of SDI 100, Table IV.

2.3 FINISHING

Doors and frames shall be primed and finished in accordance with SDI 100.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Door Clearance

Clearances shall be those specified in SDI 100.

Clearances for fire-rated doors shall be as specified in NFPA 80.

3.1.2 Frame Installation and Tolerances

Frames shall be installed in accordance with SDI 105.

Fire-rated frames shall be installed in accordance with NFPA 80.

Frames shall be installed within the following tolerances:

Deviation in location from that

indicated on the drawings	Plus or minus 1/4 inch
Deviation from plumb or horizontal:	
In 8 feet	Not more than 1/16 inch
In 12 feet	Not more than 1/8 inch
Deviation in location from that indicated on the drawings	Plus or minus 6 millimeter
Deviation from plumb or horizontal:	
In 2438 millimeter	Not more than 1.6 millimeter
In 3658 millimeter	Not more than 3.2 millimeter

3.1.3 Finish-Hardware Installation

Hardware shall be installed and adjusted in accordance with the hardware manufacturer's printed directions.

After the installation is completed, hardware shall be adjusted and lubricated to ensure proper performance.

3.1.4 Final Adjustment

Before final acceptance, finish hardware shall be checked and readjusted as required to ensure proper operation of the finish hardware.

-- End of Section --